6. FLAT BED IMAGE SCANNING SECTION

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6. Flat Bed Image Scanning Section

[Removal and Assembly]

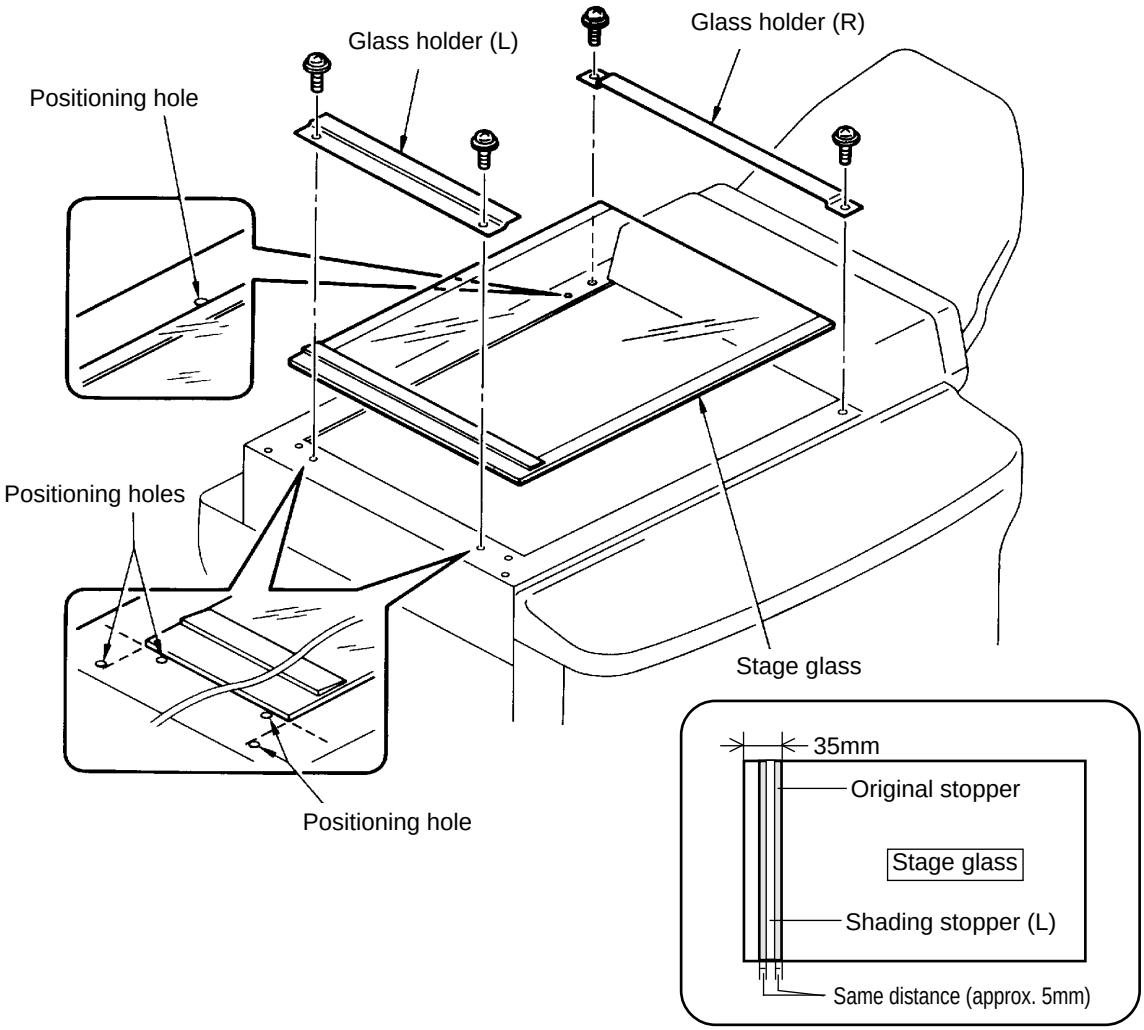
1. Stage Glass

< Removal Procedure >

1. Turn OFF the power and remove all Scanner covers (front, rear, right and left).
   [Note]
   If the machine is equipped with the ADF unit, remove the FB-ADF covers (F) and (R).
   (Refer to page VI-27.)
2. Remove two screws each from the Glass holder (L) and Glass holder (R), and remove these two Glass holders.
3. Lift and remove the Stage glass.

- Precautions in Assembly -

- When placing the Stage glass back on the machine, touch the edges of the glass and their extended lines with the frames of the positioning holes on the Scanner table frame, as shown below.
- Do not scratch, stain or damage the Shading plate attached underneath the Glass holder (R).
- When replacing the Original stopper and Shading plate (L) underneath on the Stage glass, attach them on the Stage glass as shown in the figure below.



2. Image Scanner

< Removal Procedure >

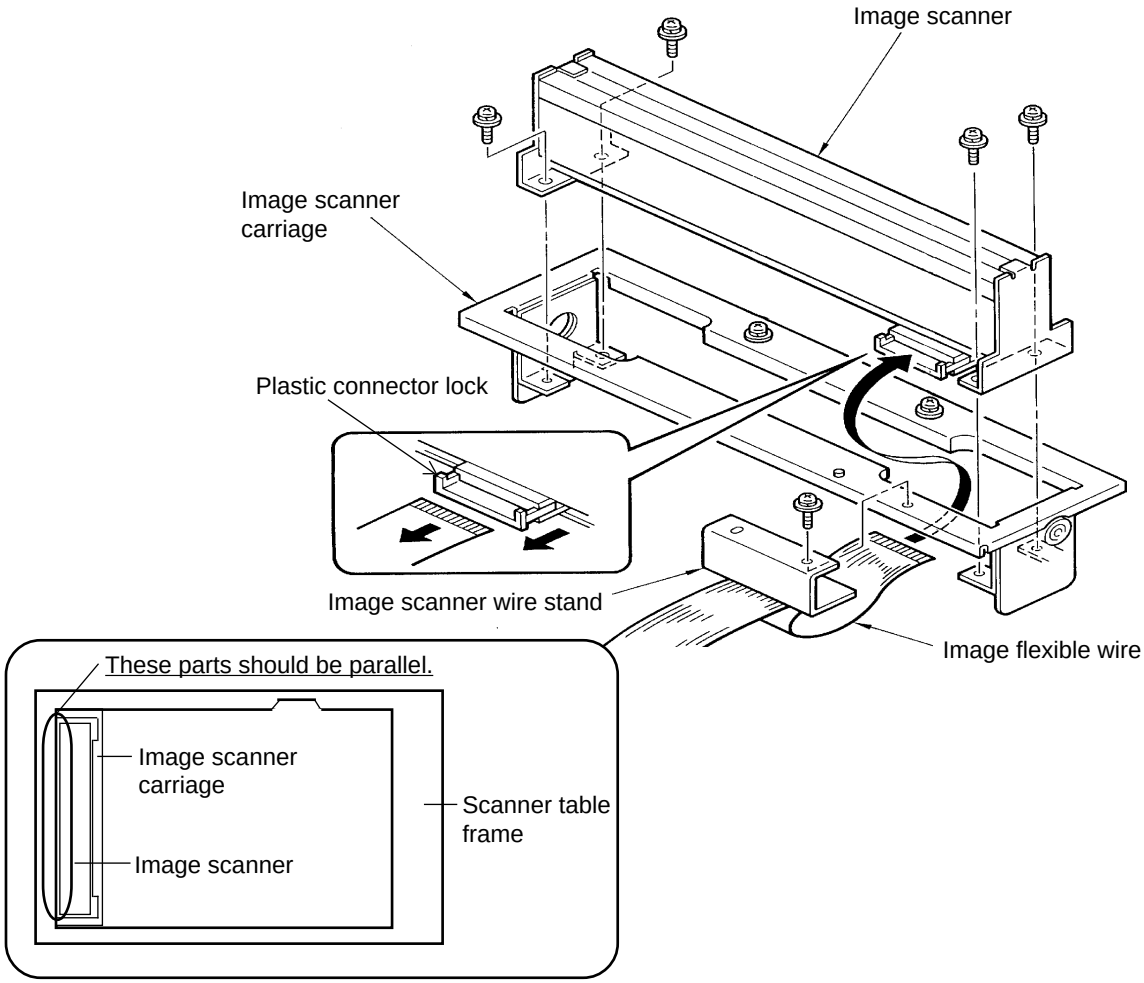
1. Turn OFF the power and remove the Stage glass, referring to the previous page.
2. Shift the Image scanner to reach mounting screws.
3. Remove the mounting screw on the Image scanner wire stand.
4. Slide out the plastic connector lock on the Image scanner and disconnect the Image flexible wire from the Image scanner.
5. Remove four mounting screws on the Image scanner, and take out the scanner from the Image scanner carriage, lifting it upward gently.

- Precautions in Assembly -

- Confirm that the Image scanner is installed in the Image scanner carriage, parallel to the Scanner table frame, as indicated in the figure below.
- When connecting the Image flexible wire back onto the Image scanner, slide out the plastic connector lock on the Image scanner and push it back firmly into the Image scanner together with the Image flexible wire all the way .

- Adjustments after Assembly -

- The scanning start position (Refer to page VI-36.)
- The Image scanner ADF home position (Refer to page VI-41.)



3. Image Scanner Carriage

< Removal Procedure >

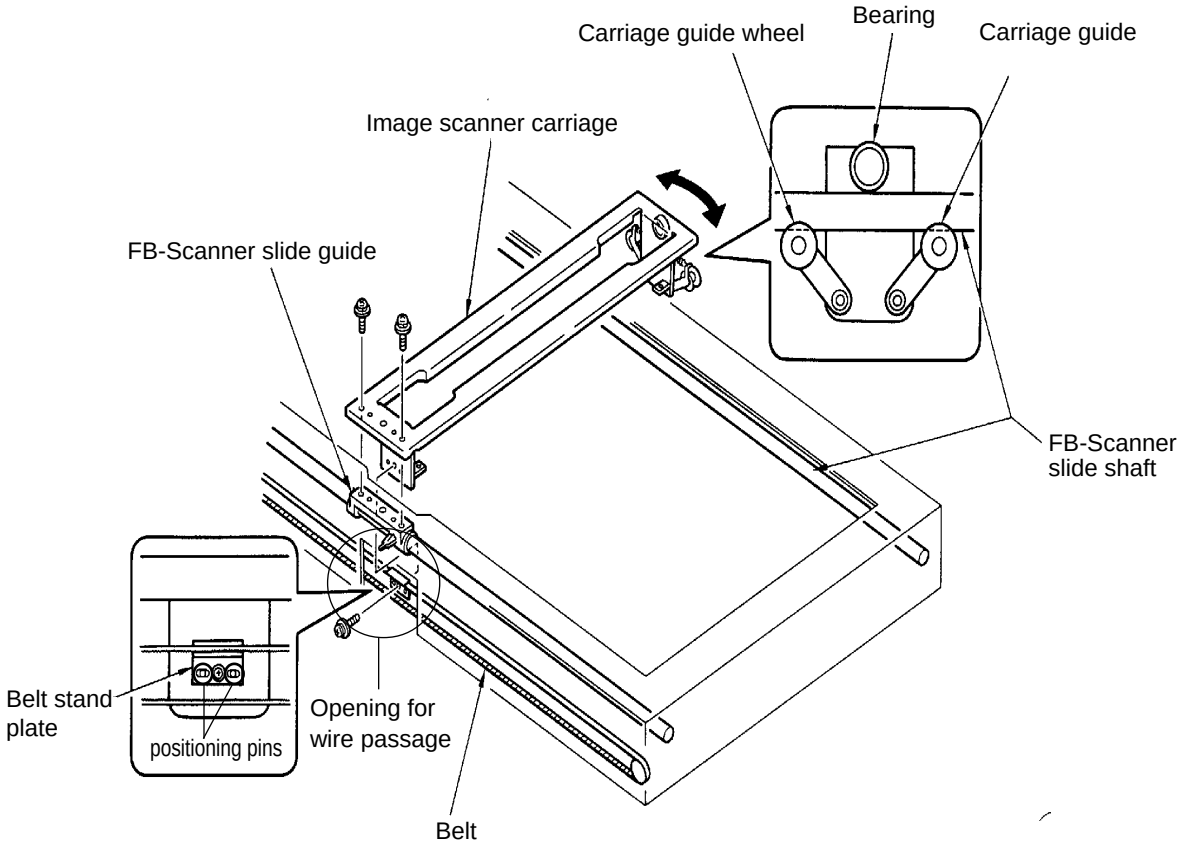
1. Turn OFF the power and remove the Image scanner, referring to the previous page.
2. Shift the Image scanner carriage to about the middle of the Scanner table, where the Scanner table frame is cut to pass the Image flexible wire.
3. Remove the mounting screw on the FB-Scanner belt stand plate and free the plate from the Image scanner carriage.
4. Remove two mounting screws on the Image scanner carriage and separate the carriage from the FB-Scanner slide guide.
5. Gently rock the other end of the Image scanner carriage on the panel side horizontally and free two Carriage guide wheels from the FB-Scanner slide shaft to remove the carriage from the Scanner table.

- Precautions in Assembly -

- Match the positioning pins on the Image scanner carriage with the positioning holes on the FB-Scanner belt stand plate when attaching the belt stand plate onto the carriage.
  The positioning pins can be located within any part of the holes.

- Adjustments after Assembly -

- The scanning start position (Refer to page VI-36.)
- The Image scanner ADF home position (Refer to page VI-41.)



4. FB-Scanner Belts

< Removal Procedure >

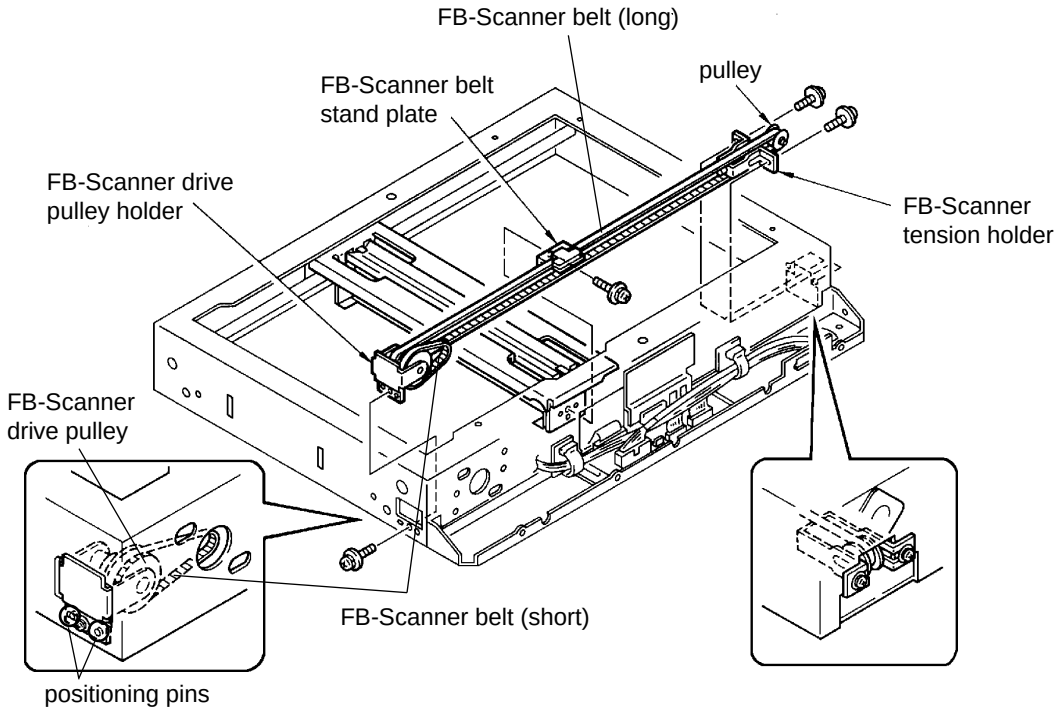
1. Turn OFF the power and remove the FB-Scanner cover (right) by removing two mounting screws.
   [Note]
   If the machine is equipped with the ADF unit, remove the ADF unit and FB-ADF cover (right). (Refer to page VI-27.)
2. Remove the Stage glass. (Refer to page VI-21.)
3. Remove the Flat bed read pulse motor. (Refer to page VI-26.)
4. Remove the mounting screw of the FB-Scanner drive pulley holder and separate the holder from the Scanner table frame.
5. Remove an E ring on one end of the FB-Scanner drive pulley shaft, pull out the shaft through the pulley and take out the pulley from the holder, disengaging the long FB-Scanner belt from it.
6. Remove the short FB-Scanner belt from the FB-Scanner drive pulley.

To remove the long FB-Scanner belt, proceed to the steps below.

7. Remove the mounting screw of the FB-Scanner belt stand plate to free the plate from the Image scanner carriage.
8. Remove two mounting screws on the FB-Scanner tension holder and disengage the long FB-Scanner belt from the pulley of the tension holder.
9. Remove the securing screw on the FB-Scanner belt stand plate and separate the plate from the long FB-Scanner belt.

- Precautions in Assembly -

- Match the positioning pins on the Image scanner carriage with positioning holes on the FB-Scanner belt stand plate when attaching the belt stand plate onto the carriage.
  The positioning pins can be located within any part of the holes.
- Match the positioning pins on the FB-Scanner drive pulley holder with the positioning holes on the Scanner table frame.



5. Image Flexible Wire

< Removal Procedure >

1. Turn OFF the power and remove the Stage glass. (Refer to page VI-21.)
2. Remove the Image scanner wire stand from the Image scanner, slide out the plastic connector lock of the Image scanner and disconnect the Image flexible wire from the Image scanner. (Refer to the page VI-18.)
3. Remove the mounting screw on the Core holder and separate the Core holder and Image scanner wire stand from the Image flexible wire. Then slide the Ferite core case off the wire.
4. Remove five mounting screws on the Image flexible wire cover plate and remove the plate.
5. Slide out the plastic connector lock on the Flat bed PCB and disconnect the Image flexible wire from the PCB.

- Precautions in Assembly -

- Secure the bent portion of the Image flexible wire to the guideline-marked position on the bottom plate of the Scanner table, meeting the side edge of the wire with the guide line.
- Confirm the wide aluminum tape on the wire is in contact with the Grounding plate.
- Make sure to place the Ferite core case on the short aluminum tape on the wire and fold down the wire at this point when securing the wire to the Image scanner wire stand as shown below.
- When connecting the Image flexible wire back in the connector, slide out the plastic connector lock and then push it back firmly into the connector together with the Image flexible wire.

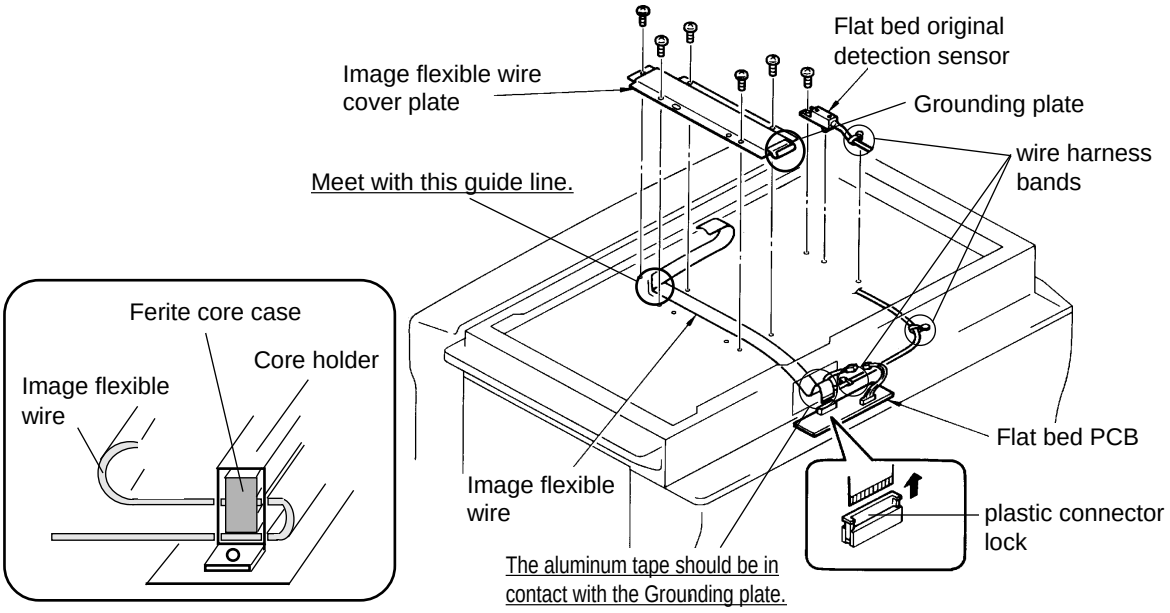
6. Flat Bed Original Detection Sensor

< Removal Procedure >

1. Turn OFF the power and remove the Stage glass. (Refer to page VI-21.)
2. Remove the mounting screw on the Flat bed original detection sensor and cut three wire harness bands holding the sensor's wires onto the bottom plate of the Scanner table.
3. Unplug the connector of the sensor just before the Flat bed PCB and take out the sensor.

- Precautions in Assembly -

- Secure the sensor wires as before removal.


Flat bed original detection sensor
Image flexible wire cover plate
Grounding plate
wire harness bands
Meet with this guide line.
Ferite core case
Core holder
Image flexible wire
Flat bed PCB
Image flexible wire
plastic connector lock
The aluminum tape should be in contact with the Grounding plate.

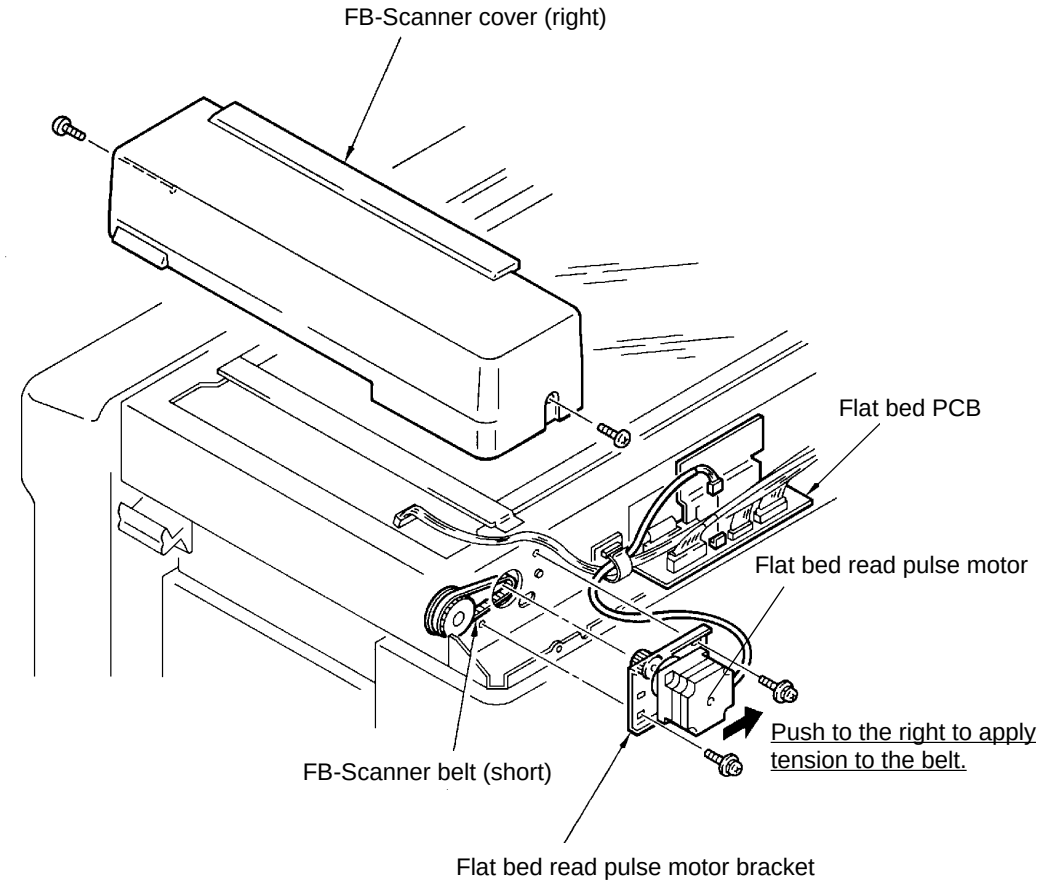
7. Flat Bed Read Pulse Motor

< Removal Procedure >

1. Turn OFF the power, and remove the FB-Scanner cover (right) by removing two mounting screws.
   [Note]
   If the machine is equipped with an FB-AD unit, remove the unit referring to page VI-27.
2. Remove two mounting screws of the Stage cover and remove the Stage cover.
3. Unplug the connector of the Flat belt read pulse motor from **CN3** of the **Flat bed PCB**.
4. Remove two mounting screws on the Flat bed read pulse motor bracket and remove the motor from the Scanner table frame together with the bracket.
5. Remove two mounting screws of the Flat bed read pulse motor and separate the bracket from the motor.

- Precautions in Assembly -

- When securing the motor, tighten the mounting screws while pushing the motor to the right, applying enough tension to the FB-Scanner belt (short).
- Ensure matching of the positioning pins on the Scanner table frame into the positioning holes of the Flat bed read pulse motor bracket.


FB-Scanner cover (right)
Flat bed PCB
Flat bed read pulse motor
Push to the right to apply tension to the belt.
FB-Scanner belt (short)
Flat bed read pulse motor bracket

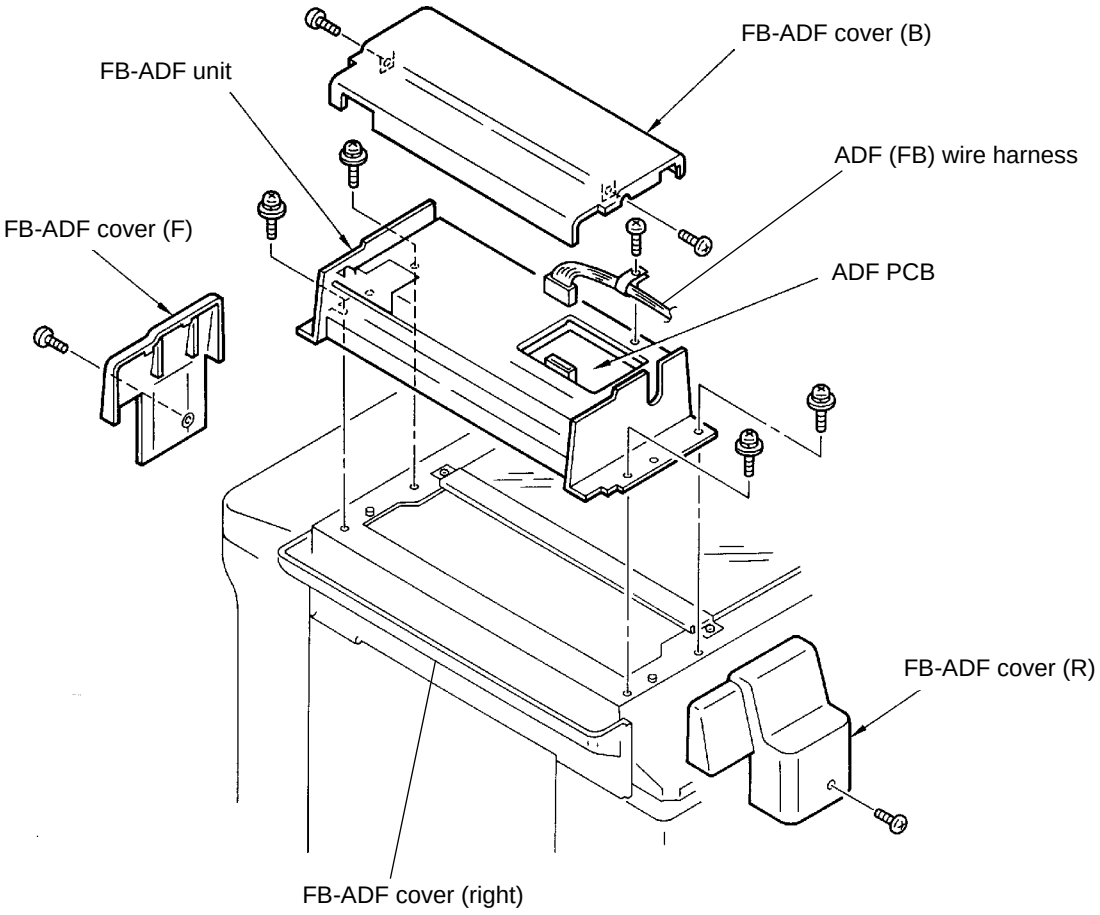
8. FB-ADF Unit

< Removal Procedure >

1. Turn OFF the power and remove the FB-ADF covers (B), (R) and (F).
2. Remove the securing screw of the wire harness band holding the ADF (FB) wire harness and disconnect the connector of the wire harness from **CN6** of the **ADF PCB**.
3. Remove four mounting screws on the FB-ADF unit and take out the unit from the machine.

- Precautions in Assembly -

- Be careful not to damage the Stage glass.
- The FB-ADF covers (B), (R) and (F) have catching hooks.
  Be sure to hook them properly when attaching the covers back on the FB-ADF unit without pinching any wires.



9. ADF Glass
10. FB-ADF Original IN Sensor (receive)
11. ADF Switch

9. ADF Glass

< Removal Procedure >

1. Turn OFF the power and remove the FB-ADF unit from the machine, referring to page VI-27. Turn the unit upside down.
2. Remove the mounting screws on the Image scanner glass holders (L) and (R) and remove the holders.
3. Remove the ADF glass carefully.

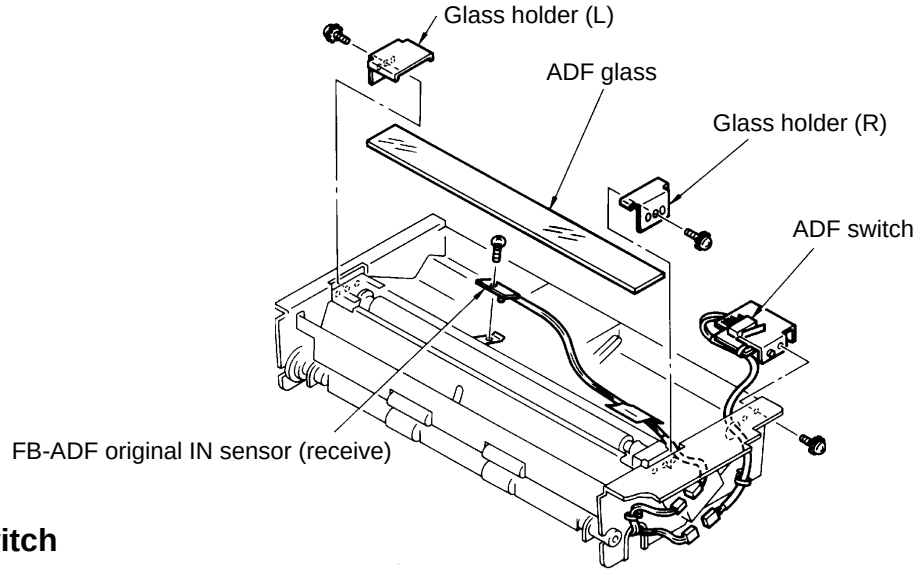
10. FB-ADF Original IN Sensor (receive)

< Removal Procedure >

1. Turn OFF the power and remove the FB-ADF unit from the machine, referring to page VI-27. Turn the unit upside down.
2. Unplug the FB-ADF original IN sensor (receive) connector.
3. Remove the mounting screw of the FB-ADF original IN sensor (receive) and remove the sensor from the ADF unit, peeling off the tape securing the wires to the sensor.

- Precautions in Assembly -

- Secure the wires of the sensor with tape as before removal.



11. ADF Switch

< Removal Procedure >

1. Turn OFF the power and remove the FB-ADF unit from the machine, referring to page VI-27. Turn the unit upside down.
2. Unplug the connector of the ADF switch and cut the wire clamper securing the wires of the switch.
3. Remove the mounting screw of the ADF switch bracket and remove the bracket with the switch.
4. Cut the wire clamper securing the wires of the switch to the bracket and remove two mounting screws on the switch to separate it from the bracket.

- Precautions in Assembly -

- Secure the switch wires with wire clampers as before removal.
- Match the positioning boss on the switch bracket with the hole on the FB-ADF unit frame.

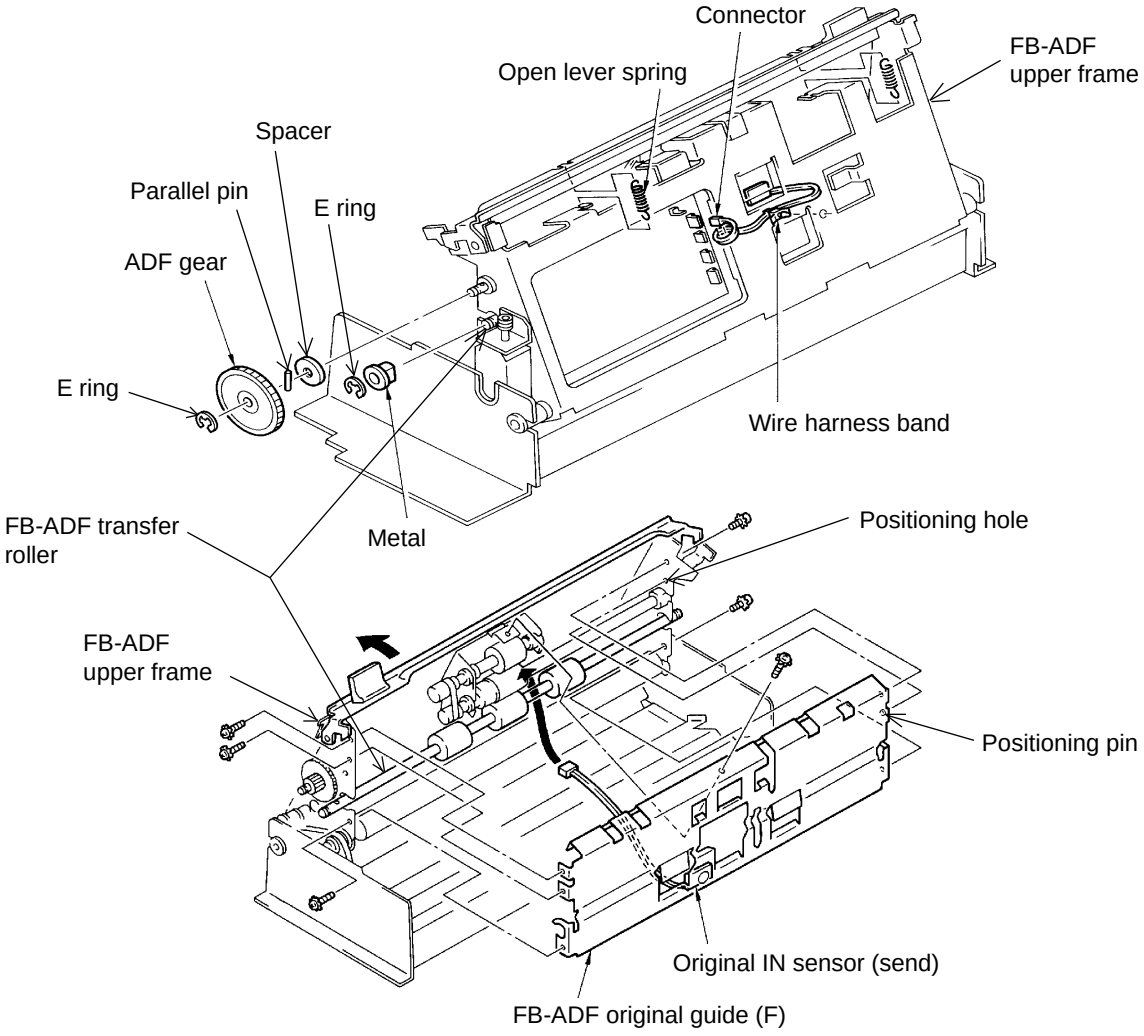
12. Original IN Sensor (send)

< Removal Procedure >

1. Turn OFF the power, and remove the FB-ADF cover (B).
2. Remove the Open lever springs (two).
3. Unplug the Original IN sensor connector from CN8 of the ADF PCB and cut the Wire harness band pushing it away from the FB-ADF upper frame.
4. Remove the E ring on the ADF gear and slide off the ADF gear, Parallel pin and Spacer.
   [IMPORTANT]
   Don't drop the parallel pin when removing the ADF gear because it will be freed.
5. Remove the E ring from the FB-ADF transfer roller and slide off the metal collar.
6. Remove six mounting screws on the FB-ADF original guide (F) and remove the guide with the Original IN sensor attached.
7. Remove the mounting screw on the Original IN sensor (send) and remove the sensor from the FB-ADF Original guide (F).

- Precaution in Assembly -

- Fit the positioning pin on the FB-ADF Original guide (F) into the positioning hole on the FB-ADF upper frame.



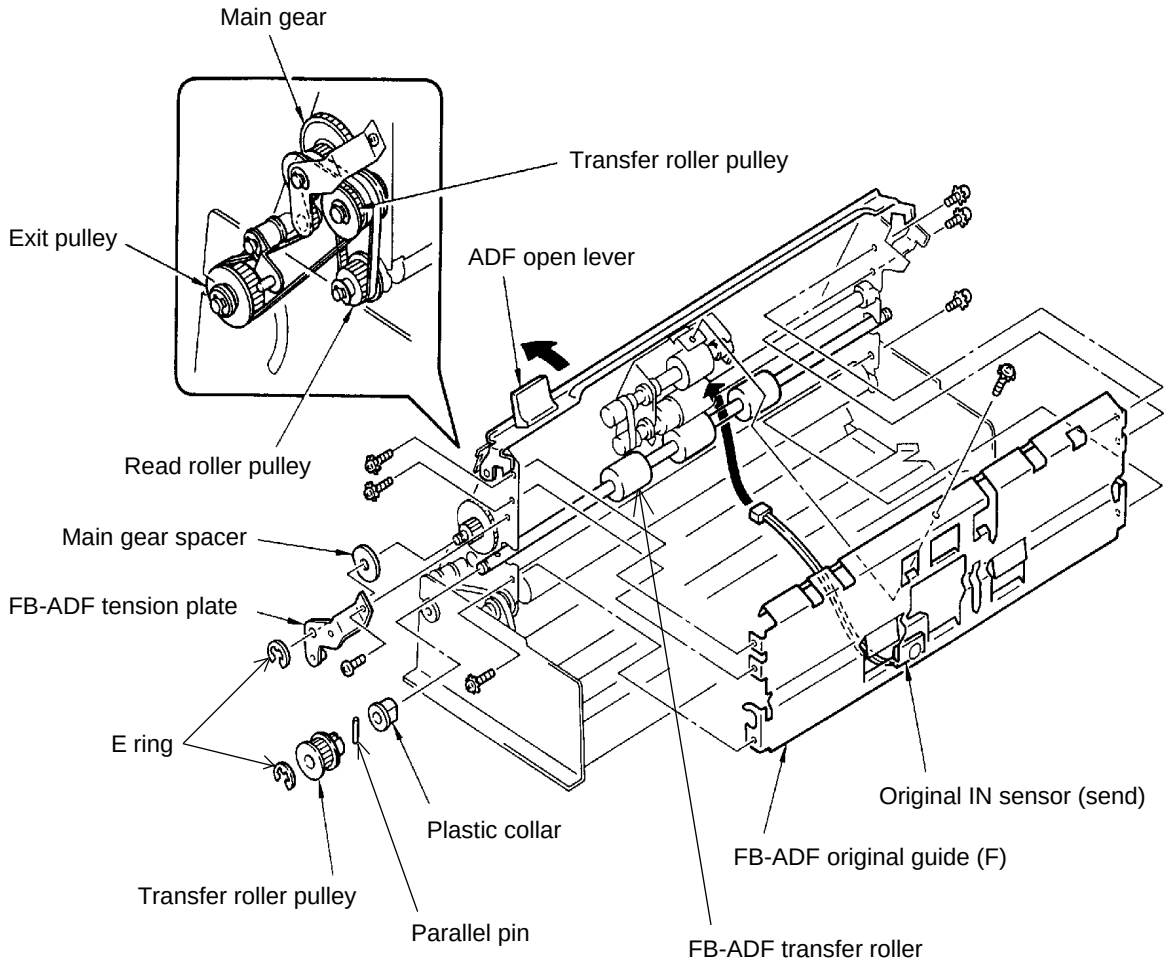
13. FB-ADF Transfer Roller

< Removal Procedure >

1. Remove the FB-ADF original guide (F), referring to the previous page.
2. Remove the mounting screw and an E ring on the FB-ADF tension plate and remove the FB-ADF tension plate and disengage the belt.
3. Remove an E ring on the FB-ADF transfer roller and remove the Transfer roller pulley while disengaging the belt and remove the Parallel pin and Plastic collar to free the FB-ADF transfer roller from the ADF unit.
   [IMPORTANT]
   Don't drop the parallel pin when removing the ADF gear because it will be freed.

- Precaution in Assembly -

- Apply enough tension on the belt by adjusting the FB-ADF tension plate at its elongated hole.



14. FB-ADF Original Detection Sensor

< Removal Procedure >

1. Remove the FB-ADF original guide (F), referring to page VI-29.
2. Unplug the Connector from CN9 of the ADF PCB.
3. Remove the mounting screw on the Original detection sensor bracket and lift the ADF open lever.
4. Remove the Original detection sensor bracket with the sensor from the FB-ADF unit.
5. Separate the sensor from the bracket by pinching the hooks.

- Precautions in Assembly -

- Match the positioning hole on the Original detection sensor bracket with the positioning pin on the FB-ADF upper frame.

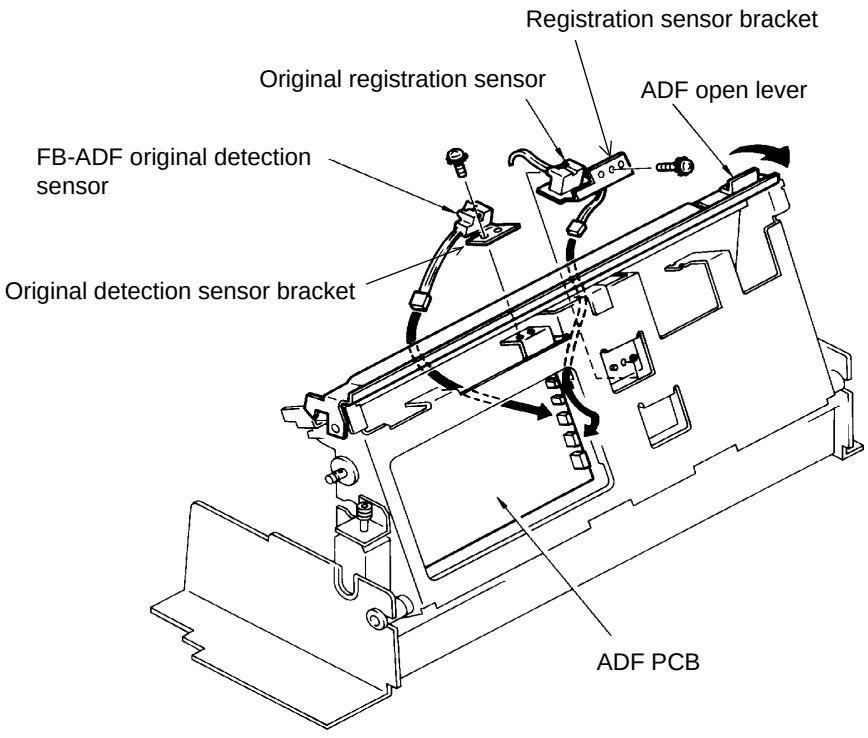
15. Original Registration Sensor

< Removal Procedure >

1. Remove the FB-ADF original guide (F), referring to page VI-29.
2. Unplug the Connector from CN10 of the ADF PCB.
3. Remove the mounting screw on the Original registration sensor bracket and remove the bracket with the sensor from the FB-ADF unit.
4. Separate the sensor from the bracket by pinching the hooks.

- Precautions in Assembly -

- The plastic actuator bar of the Original registration sensor should go under the FB-ADF transfer roller.
- Match the positioning holes on the Original registration sensor bracket with the positioning pins on the FB-ADF upper frame.



16. FB-ADF Pickup Roller (Upper)
17. ADF Stripper Roller
18. White Roller (Read Roller)

16. FB-ADF Pickup Roller (Upper)

< Removal Procedure >

1. Remove the FB-ADF original guide (F), referring to page VI-29.
2. Remove the FB-ADF original detection sensor referring to the previous page.
3. Remove the E ring on the right side end of the FB-ADF pickup roller (upper) and remove the pastic collar.
4. Slide and remove the FB-ADF pickup roller to the left while disengaging the belt from the Pulley A.
5. Remove the E ring from the other end of the FB-ADF pickup roller and remove the Pickup roller collar, Pulley A and Metal collar.

17. ADF Stripper Roller

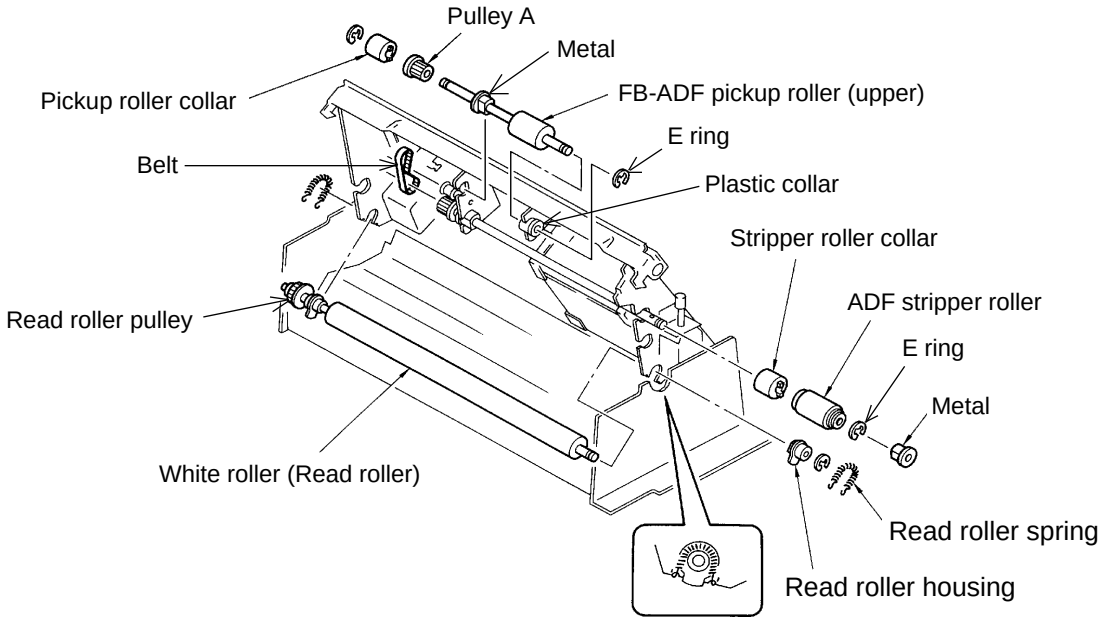
< Removal Procedure >

1. Remove the FB-ADF original guide (F), referring to page VI-29.
2. Remove the E ring next to the ADF stripper roller and remove the Metal from the end of the shaft.
3. Disengage the belt from the pulley on the other end of the shaft and slide the shaft left to separate it from the ADF unit.
4. Remove the ADF stripper roller and Stripper roller collar from the shaft.

18. White Roller (Read Roller)

< Removal Procedure >

1. Remove the FB-ADF original guide (F), referring to page VI-29.
2. Remove the two Read roller springs from both ends of the shaft.
3. Disengage the belt from the Read roller pulley.
4. Remove the E ring on the other end of the shaft and remove the Read roller housing.
5. Push the White roller to the left to disengage it from the ADF unit.
6. Remove the E ring next to the Read roller pulley and remove the Read roller pulley and Read roller housing from the White roller.



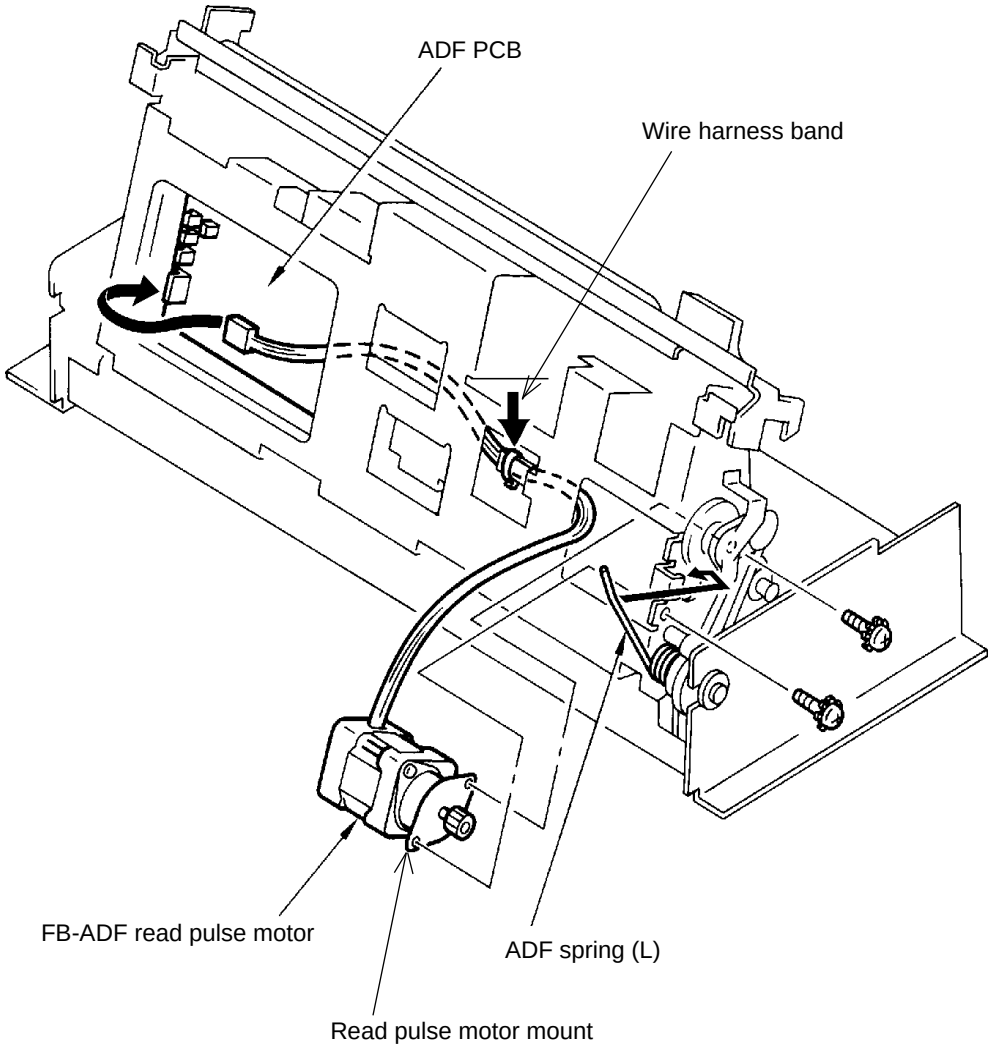
19. FB-ADF Read Pulse Motor

< Removal Procedure >

1. Turn OFF the power, and remove the ADF cover (B).
2. Unplug the FB-ADF read pulse motor connector from CN1 of the ADF PCB and cut the wire harness band, freeing the motor cord from the ADF unit.
3. Unhook the ADF spring (L) from the FB-ADF upper frame.
4. Remove the two mounting screws on the FB-ADF read pulse motor mount and remove the motor with the mount from the ADF unit.
5. Remove the Read pulse motor mount from the motor by removing two mounting screws.

- Precaution in Assembly -

- Fasten the motor cord back on the ADF unit with a new wire harness band.



20. FB-ADF Motor
21. Original OUT Sensor

20. FB-ADF Motor

< Removal Procedure >

1. Turn OFF the power, and remove the FB-ADF cover (B).
2. Unhook the E ring being careful not to misplace the parallel pin and remove the ADF gear.
3. Loosen the mounting screw of the FB-ADF motor cover.
4. Remove the two mounting screws of the Motor bracket and unplug CN3 of the ADF PCB.
5. Remove the FB-ADF motor together with the bracket.
6. Remove the ADF motor bracket from the FB-ADF motor by removing two screws.

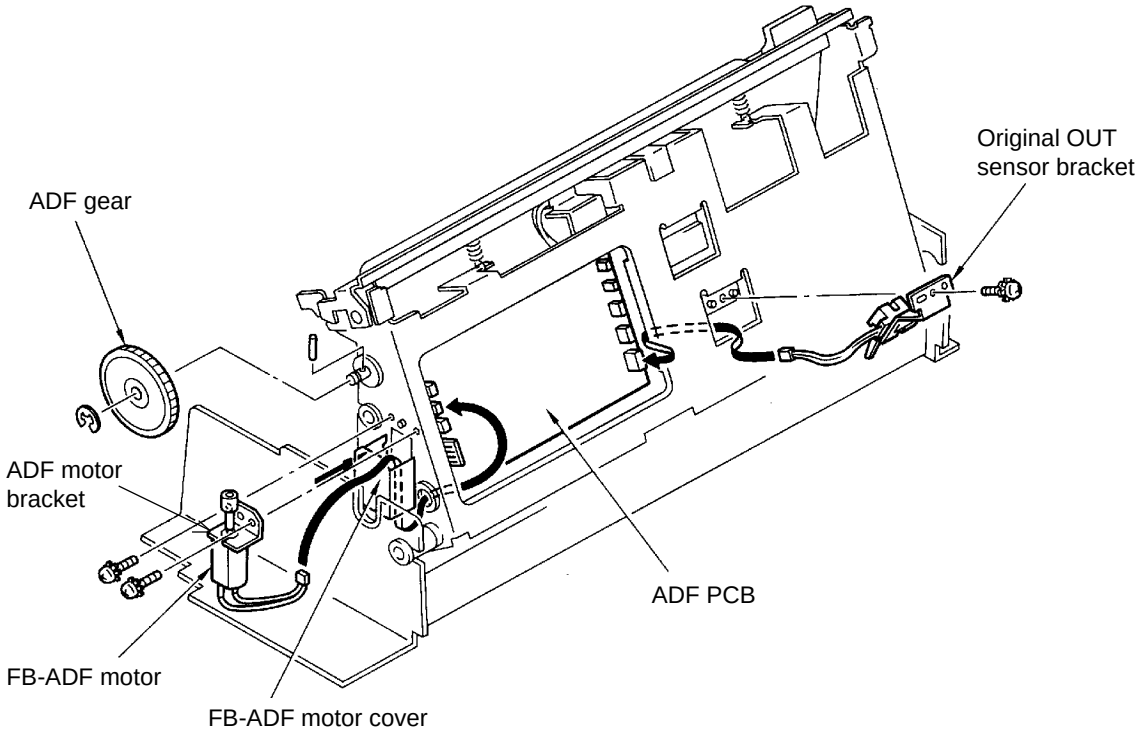
- Precaution in Assembly -

- Match the two positioning holes on the ADF motor bracket with the two positioning pins on the FB-ADF upper frame.

21. Original OUT Sensor

< Removal Procedure >

1. Turn OFF the power, and remove the FB-ADF cover (B).
2. Remove the mounting screw of the Original OUT sensor bracket.
3. Unplug the Connector of the Original OUT sensor from CN11 of the ADF PCB and remove the sensor from the FB-ADF unit, together with the bracket.
4. Remove the Original OUT sensor from the Original OUT sensor bracket by pinching the plastic hooks of the sensor.

- Precaution in Assembly -

- Match the two positioning holes on the Original OUT sensor bracket with the two positioning pins on the FB-ADF upper frame.